

AMENDMENTS TO THE SPECIFICATION

Please replace paragraphs [0030] to [0031], respectively, with the following:

[0030] Figure 6 shows a concept termed irrational tiling, explained in more detail herein; ~~and~~

[0031] Figure 7 depicts a composite tile and the tiles that make up the composite tile, as explained more fully ~~below~~; below; and

Please add the following new paragraph:

[0031.1] FIG. 8 depicts successive stages of the rendering, in foveated order, of the second layer of the LOD pyramid of FIG. 4, the successive stages being illustrated in FIGS. 8A, 8B, 8C, and 8D, respectively, in accordance with one or more embodiments of the present invention.

Please replace paragraph [0054] with the following amended paragraph:

[0054] An important aspect of the invention is the order in which the tiles are rendered. More particularly, the various tiles of the various LODs are optimally rendered such that all visible tiles are rendered first. Nonvisible tiles may not be rendered at all. Within the set of visible tiles, rendition proceeds in order of increasing resolution, so that tiles within low-resolution LODs are rendered first. Within any particular LOD, tiles are rendered in order of increasing distance from the center of the display, which we refer to as foveated rendering. To sort such tiles in the described order, numerous sorting algorithms such as heapsort, quicksort, or others may be used. To implement this ordering, a ~~lexigraphic~~ lexicographic key may be used for sorting "requests" to render tiles, such that the outer subkey is visibility, the middle subkey is resolution in samples per physical unit, and the inner subkey is distance to the center of the display. Other methods for ordering tile rendering requests may also be used. The actual rendering of the tiles optimally takes place as a parallel process with the navigation and display described herein. When rendering and navigation/display proceed as parallel processes, user responsiveness may remain high even when tiles are slow to render.

Please add the following new paragraph.

[0073.1] FIG. 8 depicts successive stages of the rendering, in foveated order, of the second layer of the LOD pyramid of FIG. 8, in accordance with one or more embodiments of the present invention.